

Immunology and Viral Isolation Group

This group examines biological specimens obtained from both humans and animals to identify viral and/or bacterial agents and antibodies produced in response to infection.

Virology is one of the fastest growing sections within the laboratory and is now being challenged to implement rapid methods for detecting threats to public health. This includes, but is not limited to MERS – CoV, Measles, influenza and other common respiratory viruses or easily transmissible diseases of significance such as chickenpox or hand, foot, and mouth disease.

Yearly, the laboratory supports influenza virus surveillance within the Commonwealth of Virginia. The viruses are typed and this information is provided to the Centers for Disease Control and Prevention (CDC) for vaccine development for the coming year.

The laboratory supports the Virginia Department of Health's Rabies Control Program. Rapid (same day) identification of rabies virus in animal tissue is available to monitor for the presence of disease in animals and provide information to the Health Department to guide the need assessment for post exposure prophylaxis to rabies. The laboratory also provides strain typing to identify emerging strains within the Commonwealth.

The laboratory provides immunological detection of antigen and/or antibodies to common and rare diseases such as syphilis, measles, HIV, Legionella, Rickettsia, rubella, and some vector borne diseases, acting as a liaison between CDC and the Commonwealth of Virginia, as required.

Immunology/Virology Test Menu

1. Arbovirus (WNV, SLE, EEE, LAC)
 - a. Human
 - i. Specimen: Blood in red top tube, serum or CSF
 - ii. Volume: 5 ml of blood, 2 ml of serum, 1 ml of CSF
 - iii. Storage: Refrigerated at 2- 8°C
 - iv. Holding Time: Ship promptly
 - v. Special considerations: Acute samples should be collected within 8 days of symptom onset
 - b. Chicken IgY Antibodies to West Nile and Eastern Equine Encephalitis
 - i. Specimen: Blood in a red top tube, blood in a serum separator tube or serum
 - ii. Volume: 0.5 ml
 - iii. Storage: Refrigerated at 2- 8°C
 - iv. Holding Time: Ship promptly
2. Atypical Antibody
 - a. Specimen: Coagulated blood in red top tube, serum or anticoagulated blood in a purple top tube
 - b. Volume: 7 ml
 - c. Storage: Refrigerated at 1- 10°C
 - d. Holding Time: Must be received at the laboratory with 7 days of collection

3. Blood Group and Rh Typing
 - a. Specimen: Coagulated blood in red top tube, serum or anticoagulated blood in a purple top tube
 - b. Volume: 5 ml
 - c. Storage: Refrigerated at 2- 8°C
 - d. Holding Time: Must be received at the laboratory with 7 days of collection
4. HIV Antigen/Antibody EIA
 - a. Specimen: Blood in red top tube, Blood in serum separator tube, serum
 - b. Volume: 10 ml
 - c. Storage: Refrigerated at 2- 8°C
 - d. Holding Time: Must be received at the laboratory with 7 days of collection
5. HIV MultiSpot (for positive HIV EIA samples only)
 - a. Specimen: Blood in red top tube, Blood in serum separator tube, serum
 - b. Volume: 10 ml
 - c. Storage: Refrigerated at 2- 8°C
 - d. Holding Time: Must be received at the laboratory with 7 days of collection
6. Legionella Disease Bacterium Serology
 - a. Specimen: Blood in red top tube, Blood in serum separator tube, serum
 - b. Volume: 3ml
 - c. Storage:
 - i. Blood: Refrigerated at 2- 8°C
 - ii. Serum: Frozen at -20.0°C or colder
 - d. Holding Time: Ship promptly
 - e. Special Considerations: Acute and convalescent samples should be collected 3 weeks apart.
7. Legionella Urinary Antigen
 - a. Specimen: Urine
 - b. Volume: 5 ml
 - c. Storage: Refrigerated at 2- 8°C
 - d. Holding Time: Must be received at the laboratory within 14 days of collection
8. Measles IgM or IgG Antibodies
 - a. Specimen: Blood in a red top tube, blood in a serum separator tube or serum in red top tube
 - b. Volume: 2 ml
 - c. Storage: Refrigerated at 2- 8°C
 - d. Holding Time: Must be received at the laboratory within 2 days of collection
9. Syphilis RPR
 - a. Specimen: Blood in red top tube, Blood in serum separator tube, serum
 - b. Volume: 7 ml
 - c. Storage: Refrigerated at 2- 8°C
 - d. Holding Time: Must be received at the laboratory with 5 days of collection

10. Syphilis TPPA (for positive RPR samples or by preapproved request only)
 - a. Specimen: Blood in red top tube, Blood in serum separator tube, serum
 - b. Volume: 7 ml
 - c. Storage: Refrigerated at 2- 8°C
 - d. Holding Time: Must be received at the laboratory with 5 days of collection
11. Syphilis VDRL
 - a. Specimen: Blood in red top tube, Blood in serum separator tube, serum, CSF
 - b. Volume: 7 ml for blood or 1 ml for CSF
 - c. Storage: Refrigerated at 2- 8°C
 - d. Holding Time: Must be received at the laboratory with 5 days of collection
12. Rabies
 - a. Specimen: Animal brain, head (brain intact), or body of small animals (intact)
 - b. Volume: Pea size amount of brain stem, cerebellum, and hippocampus
 - c. Storage: Refrigerated at 5°C +/- 3°C; Frozen at -20.0°C or colder
 - d. Holding Time: Ship promptly
 - e. [Rabies Specimen Submission Protocol](#)
13. Rickettsia IgM and/or IgG Antibody
 - a. Specimen: Blood in red top tube, Blood in serum separator tube, serum
 - b. Volume: 3 ml
 - c. Storage: Refrigerated at 2- 8°C
 - d. Holding Time: Must be received at the laboratory with 5 days of collection
 - e. Special Considerations: Acute samples should be drawn within 14 days of symptom onset. Convalescent samples should be draw 7 to 14 days after the acute sample.
14. Rubella
 - a. Specimen: Blood in a red top tube
 - b. Volume: 5 ml
 - c. Storage: Refrigerated at 2- 8°C
 - d. Holding Time: Must be received at the laboratory with 2 days of collection
15. Virus Isolation